Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Service and Eligibility Rules for	)	MB Docket No. 07-172
FM Broadcast Translator Stations	)	RM-11338
	)	

To: The Commission

COMMENTS OF CBS RADIO INC.

CBS Radio Inc. ("CBS"), by its attorneys, hereby submits these comments in response to the Notice of Proposed Rule Making (the "NPRM") in the above-captioned proceeding, released by the Federal Communications Commission (the "Commission" or the "FCC") on August 15, 2007. The NPRM seeks comment on issues relating to the potential licensing and use of FM translator stations by AM broadcast stations. The NPRM also proposes to allow daytime-only AM stations to use FM translators to originate programming at night.

CBS concurs with the NPRM in its praise of the AM radio service, and agrees that AM radio is an integral part of American life. However, CBS does not agree that the addition of new FM translators will resolve the technical limitations which beset AM transmissions, and believes that the proposal, rather than helping, has the ironic potential to weaken the AM service by drawing AM listeners to the FM band. In addition, the proposal has the potential to add interference to an already crowded FM spectrum without doing anything to relieve congestion in the AM band. Given the Commission's

ongoing efforts to accommodate full-service FM stations, low power FM stations (including initiatives just announced; *see In the Matter of Creation of A Low Power Radio Service*, MM Docket No. 99-25, (*rel*. Dec. 11, 2007)), and FM translators (including the thousands of applications still pending from the 2003 auction), adding additional layers of interference from AM licenses to the FM band through the deployment of FM translators does not make sense at this time.

The Commission previously considered, and twice rejected, proposals to allow AM stations to use FM translators. In 1981, the FCC rejected a proposal by the Rocky Mountain Broadcasters Association to allow AM broadcasters to use FM translators, stating:

> There is generally no reason for AM licensees to establish FM translators to provide "fill in" service since the propagation characteristics of the band normally do not leave service voids similar to those found in the FM band. Stated in another manner, if an AM station's signal is suitable for use on an input to an FM translator, it should also be suitable within the service area of the FM translator for direct off the air reception as an AM signal.

Memorandum Opinion and Order, 49 Rcd. 1499-1500 (1981).

The Commission again considered the issue in 1990, and again concluded that there was insufficient reason to allow AM stations to utilize FM translators, stating that "there is generally no reason for AM licensees to establish fill-in service facilities on the FM band." *Notice of Proposed Rule Making*, 5 FCC Rcd. 2106, 2116 (1990).

CBS considers the Commission's prior reasoning sound, and encourages it once again not to adopt rules that would allow AM stations to use FM translators. If, however, the Commission proceeds with its current proposal, it should ensure that adequate safeguards are in place to prevent damaging interference that could result from further congestion to the FM band. Without such protections, the result would be the duplication

of programming in two congested, interference-prone bands, which would clearly be a "no-win" situation for broadcasters and the public.

I. THE STATIONS AUTHORIZED UNDER THE PROPOSAL WOULD BE MORE LIKE HIGH POWER FM STATIONS THAN TRANSLATORS

The NPRM proposes FM translator stations that could broadcast 60 dBu signals extending a maximum of 25 miles in radius[1] – an area significantly larger than that covered by many current full-power FM stations. Although most FM translators would likely have a reach of less than the maximum 25 miles, CBS questions the soundness of rules that would, in certain circumstances, permit a 25 mile radius of coverage from a supposed "fill in" FM translator.

Attached hereto is an engineering statement prepared by E. Glynn Walden, CBS's Vice President of Engineering (the "Engineering Statement"). As described in the Engineering Statement, it is estimated that to deliver a 60 dBu signal to a 25 mile radius using an antenna height of 250 feet (76.2 meters) HAAT would require approximately 50.62 kilowatts ERP. Current fill-in FM translators are limited to a significantly lower maximum effective radiated power ("ERP") of 250 watts.[2] The Commission's proposal, at its outer limits, would therefore conceivably allow translators of a vastly different scale than those authorized under current rules - the AM fill-in translator would be an elephant, and the standard FM fill-in translator would be a mouse.

As shown in the Engineering Statement, the predicted 60 dBU contour of the proposed translator would actually exceed the 60 dBU contours of both Class B1 and

[1] The NPRM proposes that no portion of the 60 dBu contour of any such FM translator station extend beyond the smaller of (a) a 25-mile radius from the AM transmitter site, or (b) the 2mV/m daytime contour of the AM station.

[2] 47 C.F.R. § 74.1235.

Class A FM stations. *See* Engineering Exhibit, Figure 1, *60 dBu Comparisons AM-FM Translator vs. Licensed Class A and Class B1 Stations.*

A high power FM translator, operating at 50.62 kilowatts, presents significantly greater interference concerns than current FM translators. As described in the Engineering Statement, CBS estimates that such FM translator stations could cause an interference radius of approximately 2.64 miles, or 22.04 square miles, to standard "boombox"-style and table radios. In short, the proposed FM translators should be treated, at least in terms of protecting current FM services, for what they are: equivalent in size, reach, and potential for interference, to full-power FM stations, and interference protections must be in place if the Commission intends to proceed with a proposal that would potentially authorize the use of such high powered FM translators.

II. THE PROPOSAL WOULD EXTEND AM COVERAGE, AND WOULD NOT JUST BE A "FILL-IN" SERVICE.

While the proposal purports to allow "AM stations to use FM translators to retransmit their signals within each AM station's current coverage area," NPRM at 5, it would, in reality, extend the coverage area of many AM stations. The proposal equates the 2 mV/m contour of AM stations with the 60 dBu contour of FM stations. This is an inappropriate comparison of the interference-free listening areas of the two services. The FM 60 dBu contour provides a far more robust, listenable signal than the AM 2 mV/m contour. Given the amplified interference to which AM is susceptible, the AM 5 mV/m contour is a more accurate comparison to the 60 dBu FM contour. In sum, the effect of the proposal could be the construction and operation of FM translator stations that do not

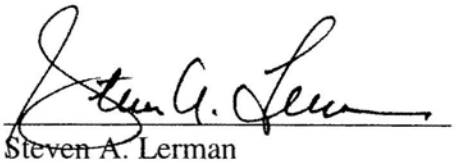
merely "fill-in" an AM station's signal, but extend it considerably beyond the AM station's current service area and in terms of quality.

CONCLUSION

For the reasons set forth herein, CBS respectfully urges the Commission to consider fully the real possibility that the proposed new translators will add additional interference to an already crowded FM band, and that should the Commission decide to proceed, it must ensure that primary FM stations remain protected from any such additional interference.

Respectfully submitted,

CBS RADIO INC.

By: 

Steven A. Lerman
Christopher J. Sova
Scott Pippin

Leventhal Senter & Lerman PLLC
2000 K Street, NW, Suite 600
Washington, D.C. 20006
202-429-8970

Its Attorneys

Anne C. Lucey
Senior Vice President
Regulatory Affairs
CBS Corporation
601 Pennsylvania Avenue, NW
Suite 540
Washington, DC 20004

ENGINEERING STATEMENT

Engineering Statement

Amendment of Service and Eligibility Rules for FM Broadcast Translator Stations

Predicted Coverage In Connection With the Proposed Use by AM Stations of the FM Translator Service, and Interference Concerns

This statement has been prepared on behalf of CBS Radio Inc. ("CBS") in connection with comments filed concurrently by CBS in MB Docket No. 07-172, RM-11338, Notice of Proposed Rulemaking, *In the Matter of Amendment of Service and Eligibility Rules for FM Broadcast Translator Stations* (the "NPRM"). In the NPRM, the Commission proposes to allow AM stations to use FM band translators with sufficient power and height to deliver 60 dBμ signals extending up to 25 miles in radius[3].

In connection with this Engineering Statement, a study was conducted using ComStudy4 propagation modeling software to determine the power level that would be needed to produce a 60 dBμ, F(50-50), contour with a radius of 25miles (40.23 Km). The study assumed an antenna height of 76.2 meters (250 feet) Height Above Average Terrain, HAAT, which is consistent with the AM antenna heights available to many AM stations. At the assumed 76.2 meter HAAT, the translator station would need to operate at 50.62 KW Effective Radiated Power, ERP in order to produce a 60 dBμ contour at a distance of 25 miles. *Figure 1* shows the 60 dBμ coverage area for the proposed 50.62 KW, "AM" translator, at 76.2 meters HAAT along with the equivalent 60 dBμ contours for licensed maximum facility Class A[5], and B1[6] authorizations.

When considering the addition of new stations to the FM band, consideration must be given to the effects that these stations might have on existing receivers. The FCC's second adjacent channel protection rules for the commercial FM stations are based on -40 dB Desired to Undesired, D/U, signal ratio. The FCC, for administrative convenience, has established minimum distance separations between second adjacent channel authorizations[7] based on FCC, F(50-50), studies to approximate the -40 dB D/U second adjacent channel protection rules.

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[3] The NPRM proposes that no portion of the 60 dBμ contour of any such FM translator station extend beyond the smaller of (a) a 25-mile radius from the AM transmitter site, or (b) the 2mV/m daytime contour of the AM station.

[4] ComStudy 2.2 propagation modeling software, copyright RadioSoft 1998-2007

[5] 6 KW ERP, 100 m HAAT

[6] Class B1 are protected to their 57 dBμ contours and are licensed for maximum facilities to operate with 25 KW ERP at 100 m HAAT. For comparison purposes Figure 1 depicts the 60 dBμ Class B1 contour operating with maximum facilities.

[7] The distance separations vary by class

The adjacent channel rules were written in the early 1950s when there were primarily tube type receivers. While there have been dramatic improvements in the ability of higher quality automotive and IBOC receivers to handle adjacent channel interference, the same can not be said for most boombox, tabletop, clock and walkman type receivers. Tests conducted by the National Association of Broadcasters, National Public Radio and others submitted to the FCC in the LPFM deliberations show the fragility of these lesser priced radios in the presence of high level second adjacent interferers[8]. An NAB report[9] with an overview of submissions by four organizations[10] in the LPFM proceeding concludes with the following wording, "*To conclude, we reviewed four reports and found that all four support the view that relaxing the FCC's adjacent channel protection ratios would create increased interference ….*"

The addition of high power translators into the existing FM service is quite different than the addition of LPFMs in that the area where high levels of D/U signal levels can be quite large and impact many listeners with non-automotive receivers.

Based on the NAB study, 50% of the home type receivers were impacted when receiving a 60 dBμ signal level in the presence of a 90 dBμ, -30 D/U, interferer and 90% of the receivers were impacted with a signal up to 40 dB stronger than the desired signal. A ComStudy, F(50-50) study was conducted to study the impact of a -40 dBμ second adjacent channel AM-FM translator on a commercially licensed Class B facility. The use of a -40 dB D/U in this study is consistent with the FCC existing protection ratios, however, for this study it is assumed that the -40 dBμ D/U occurs just inside the protected contour as may be the case if second adjacent channel protections were relaxed. The results are presented in *Figure 2*.

[8] A review of table 5 in the "*National Associations of Broadcasters – Comments on Docket 99-25 – Aug. 1999 – Receiver Tests"*, show of the 20 non-automotive radios tested, only two of the receivers were unaffected by second adjacent channel interferers that were 40 dB greater than the desired signal and 50% of the radios were effected by undesired ratios of less than -30 dB

[9] *A Review of Four Studies of FM Receiver Adjacent-Channel Immunity*, By, Dr. Raymond L. Pickholtz and Dr. Charles L. Jackson, November 1999

[10] National Association of Broadcasters, National Public Radio/ Corporation for Public Broadcasting/ Consumer Electronics Manufacturing Association, Office of Engineering and Technology, and National Lawyers Guild

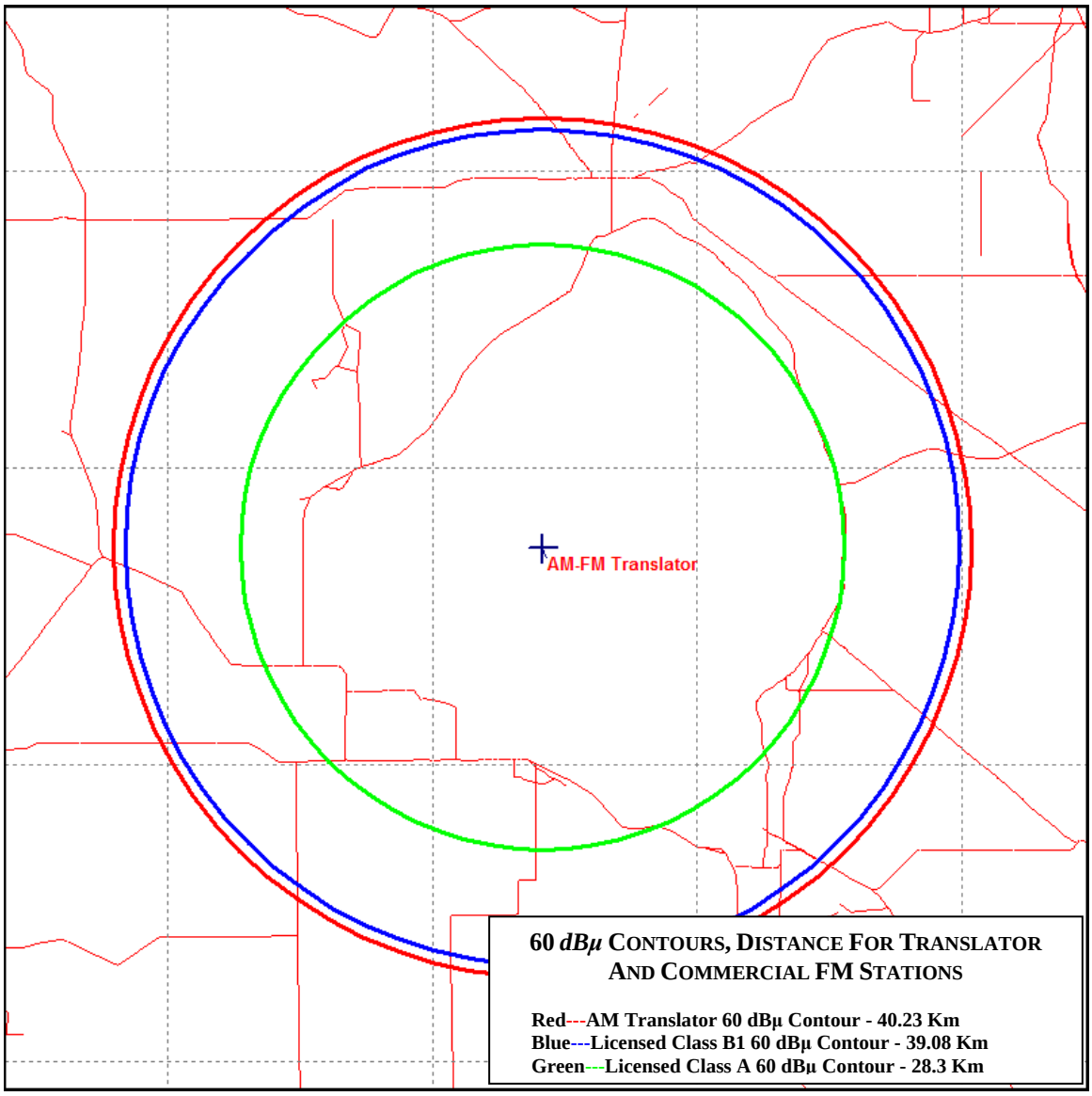

Figure 1 60 dBμ Comparisons AM-FM Translator vs. Licensed Class A and Class B1 Stations

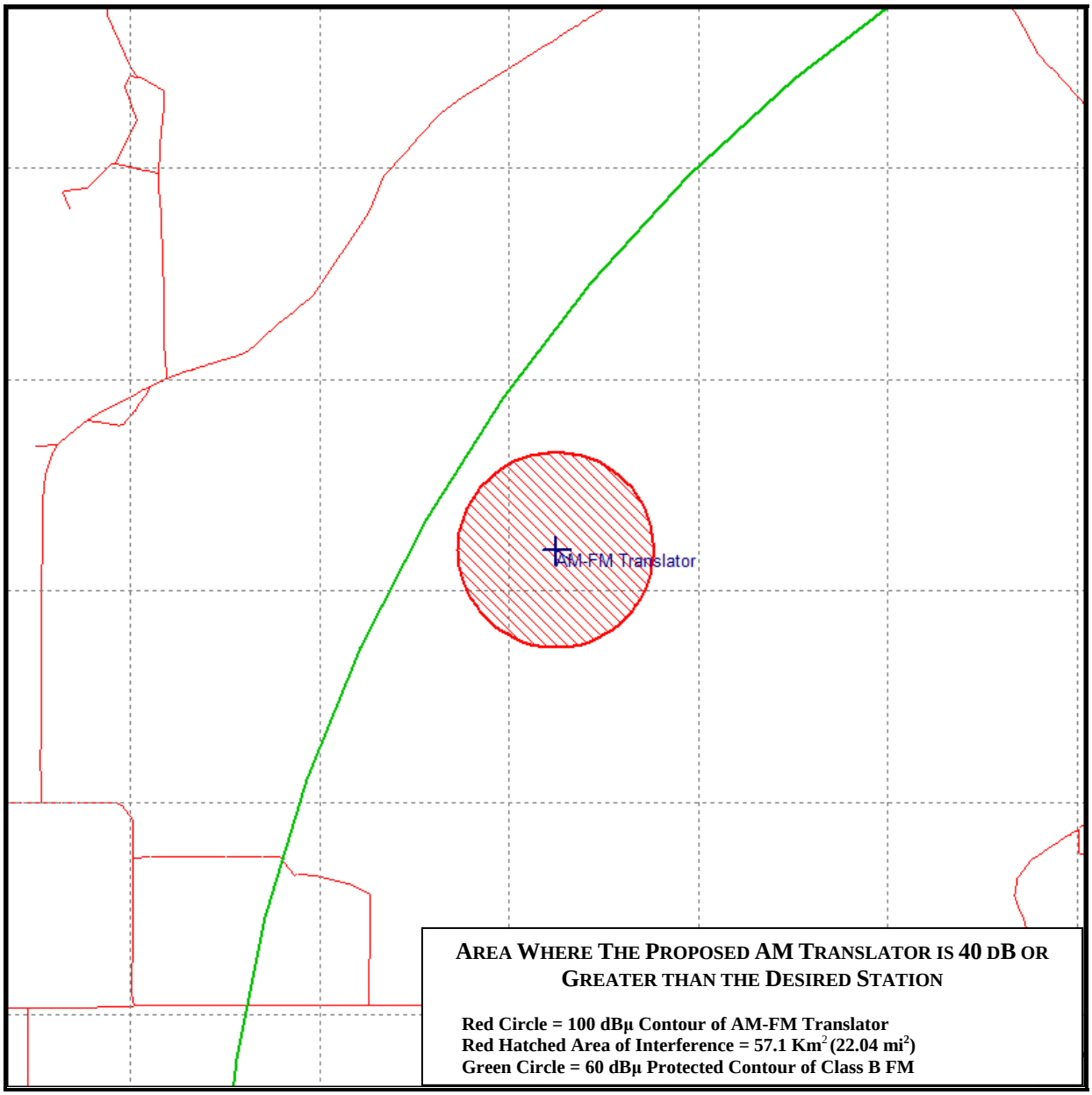

Figure 2 Area of AM-FM Translator Interference within 60 dBμ Class B Protected Contour